Application & Industry

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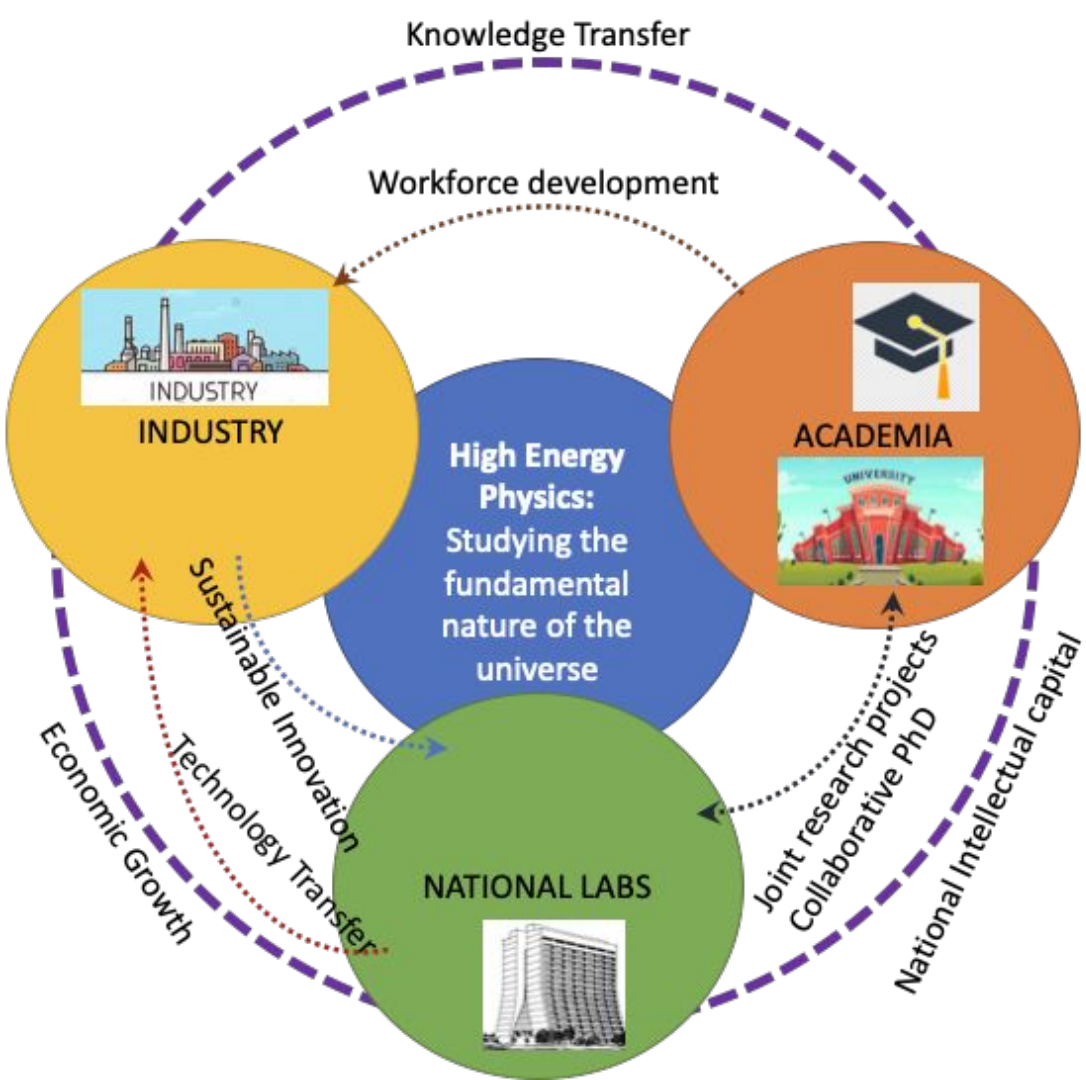
Objectives

Create an ecosystem congenial to the pursuit of discovery

- ✓ Joint research projects, collaborative PhD
- Workforce Development
- Technology Transfer
- Sustainable Innovation
  - Technological base and infrastructure development
  - Strategic investment into next generation technologies



Topics to contribute LOI / White papers

- Industry engagement
- Technology Transfer
- Co-development for other applications
- Broader technological impact

Industry Engagement - Partnership

- ➢ **Type of engagement dependent on size/ scale of industry**
  - Top Down & Bottom Up approach for collaborations with billion dollar companies [e.g. Foundries]
  - Enabling small business to scale-up post R&D phase
  - Helping small/ medium scale industry to establish competitive advantage driven by niche expertise
  - Vendors development and technology adaptation for HEP needs programs
- ➢ **Feedback for Government Policy**

Technology Transfer from National Labs to Industry

- **Increased Emphasis - Office of Technology Transitions**
- Lab partnering services
- What role should labs play in tech transfer?
- Technology Commercialization funds
- I-corps program (limited to energy technologies)
- How effective are top level policies and how does this translate to the user ?
- International comparative analysis ? Is this feasible ?

Co-development for other applications

Especially in the context of Quantum, AI, 5G etc.

Bidirectional Pathways

E.g. HEP for QIS & QIS for HEP

Explore Similarities/ Overlapping nature of the problem

E.g. AI for HEP; AI for IoT : BIG DATA

Utilization of R&D Byproducts

E.g. HEP accelerators R&D for BES Light Sources

Broader technological impact

- HEP programs introduce challenges to many other disciplines and push their boundaries in search for solutions.
- Few examples include
  - A need of new materials with HEP applications tailored properties (material science, chemistry)
  - Novel manufacturing methods and processes (i.e. additive manufacturing, or radiation hardening techniques)
  - Metrology, controls, signal processing, etc.

Current - Ongoing - Planned activities

Learning from other successful efforts

NIST Launches Consortium to Support Development of Quantum Industry

SRI International - Non profit

QEDC: Quantum Economic Development Consortium

Engage Industry & Academia

Feedback from Industry

Presentations and Engagement at Conferences

- IPAC: International Particle Accelerator Conference
- CAARI : Accelerator applications in research and industry
- IEEE Nuclear Science Symposium

Organize lightning talks

- To understand and gather information about what works/ what doesn’t work
- Geo-political differences and their impact

Survey - National Lab technology transfer

- Case studies - Successful entrepreneurs across the globe
- What would increase chances of success, lower the barriers?